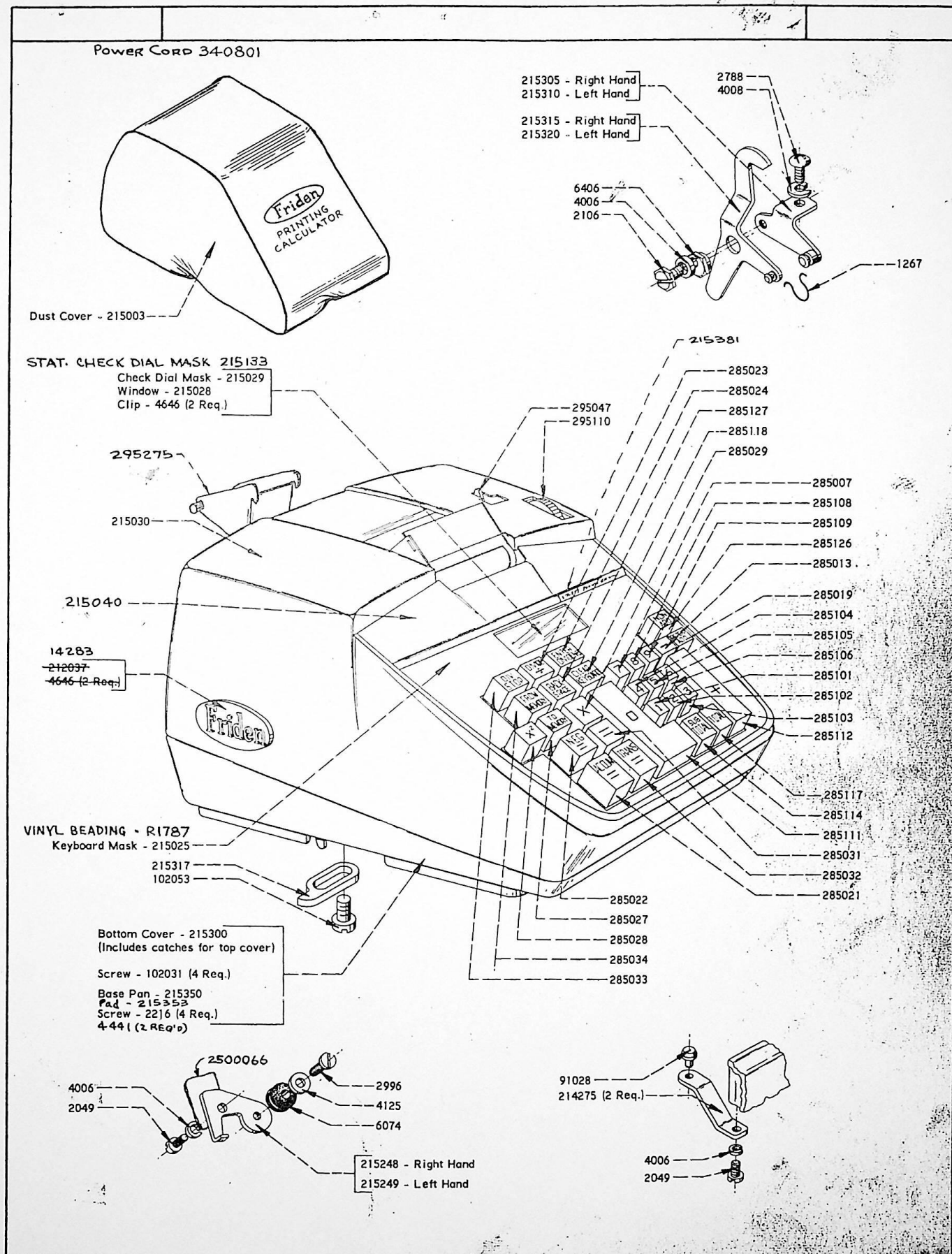


MODEL 1217 PRINTING CALCULATOR PARTS MANUAL

SINGER
FRIDEN DIVISION

TPA-163SL



215005 - 44.97
215010 - 48.96

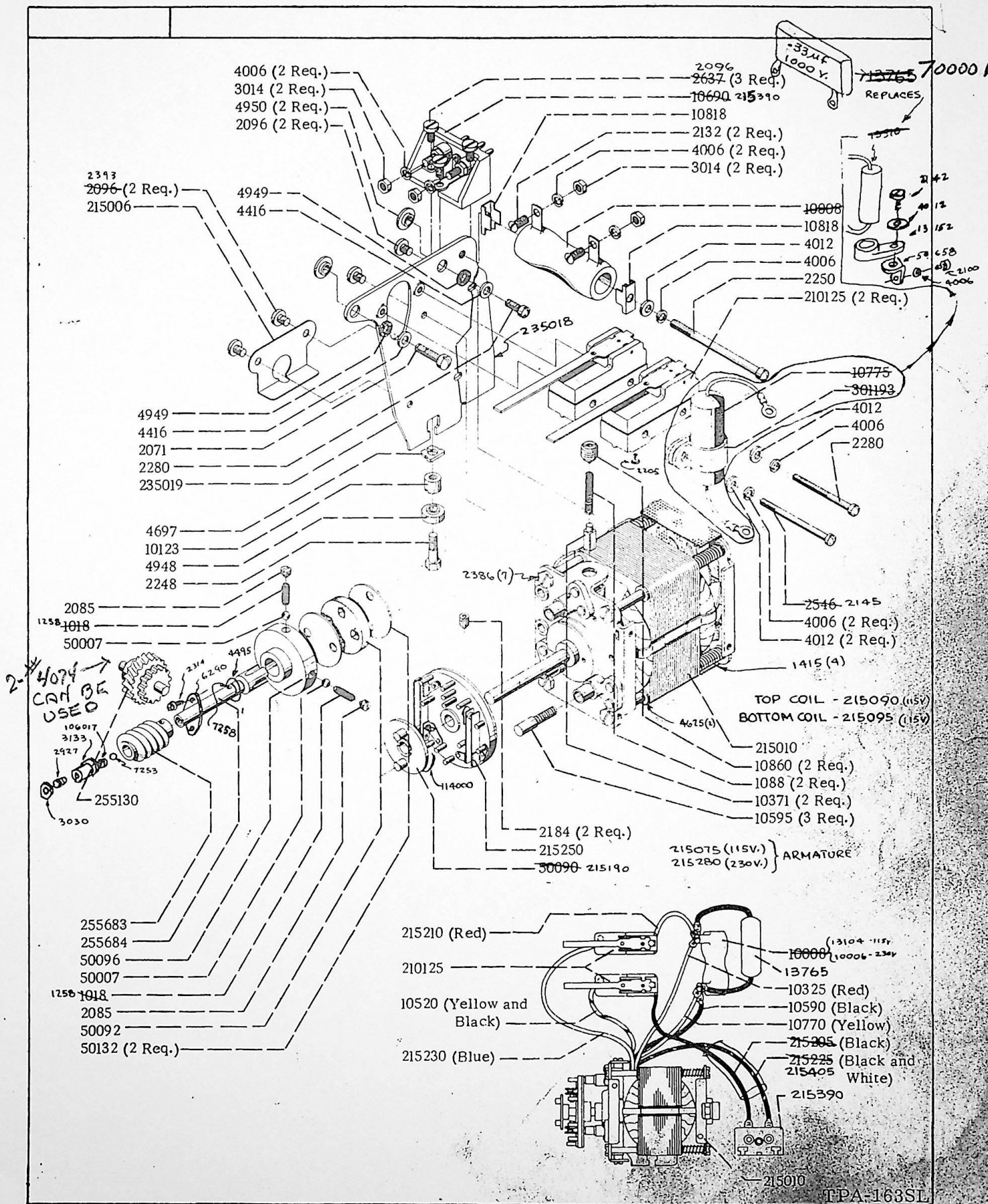
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12-31-69

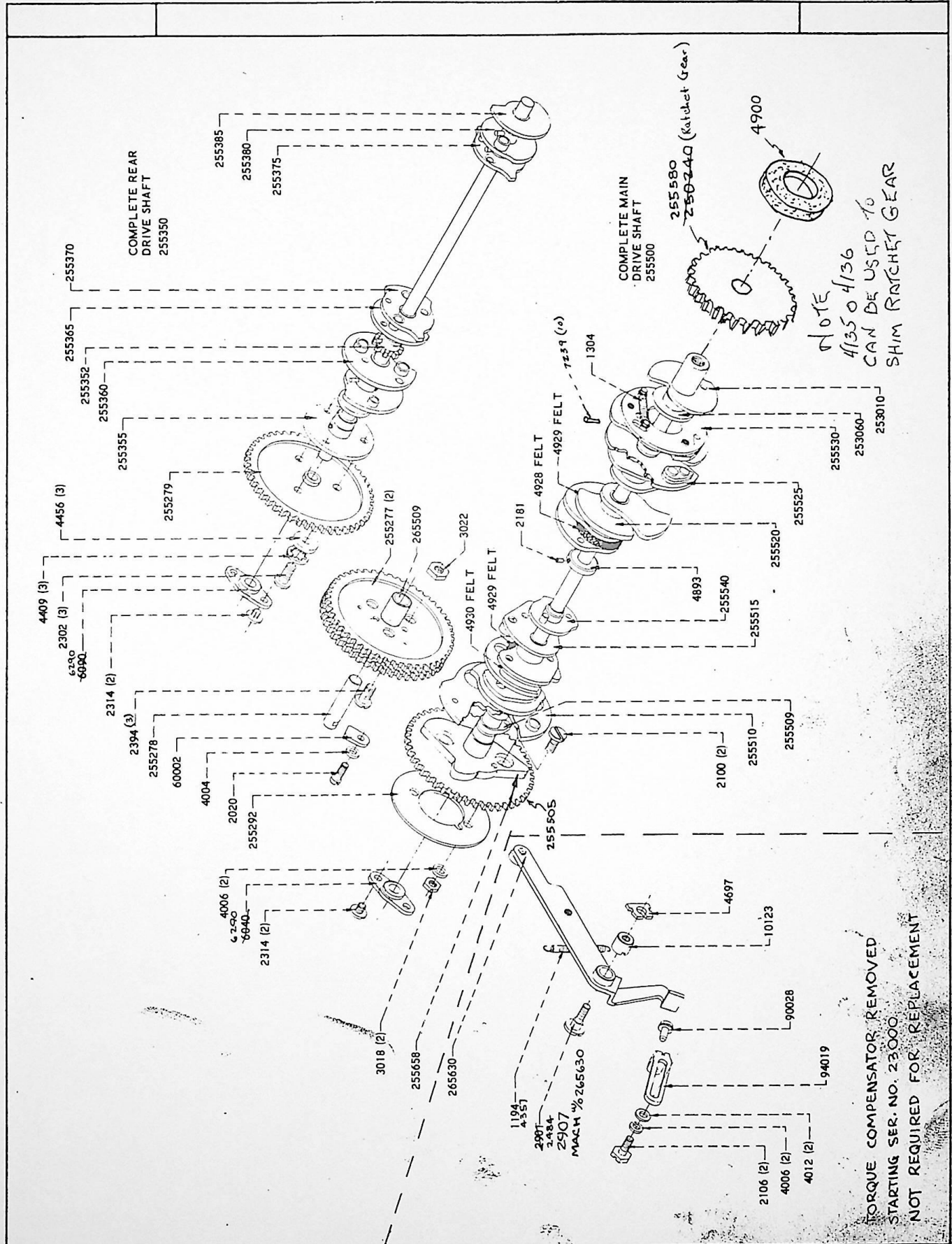
MODEL 1217 PRINTING CALCULATOR PARTS

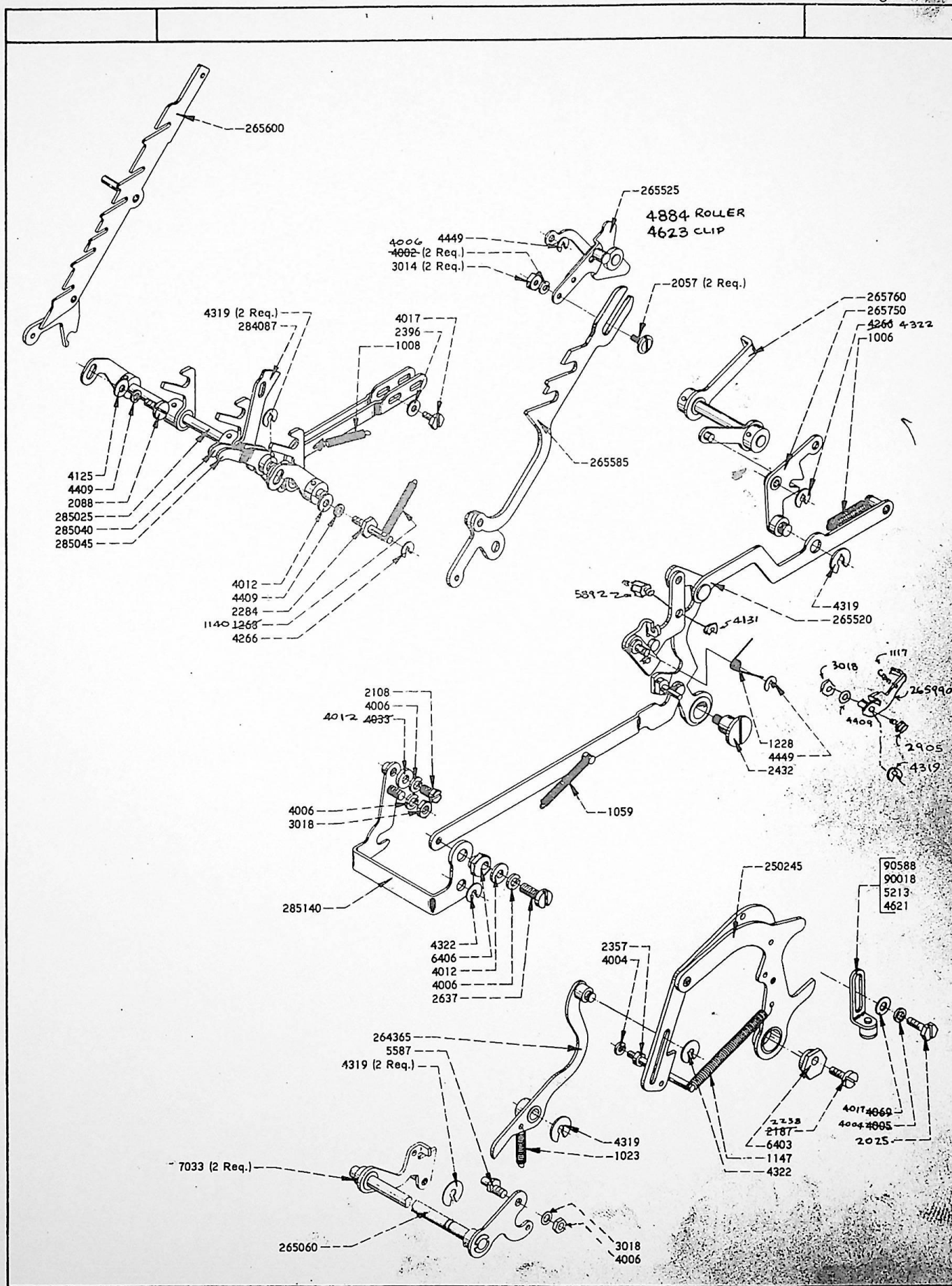
115V MOTOR & BASE 215005
115V MOTOR 215010
230V MOTOR & BASE 215290
230V MOTOR 215285

Page 3



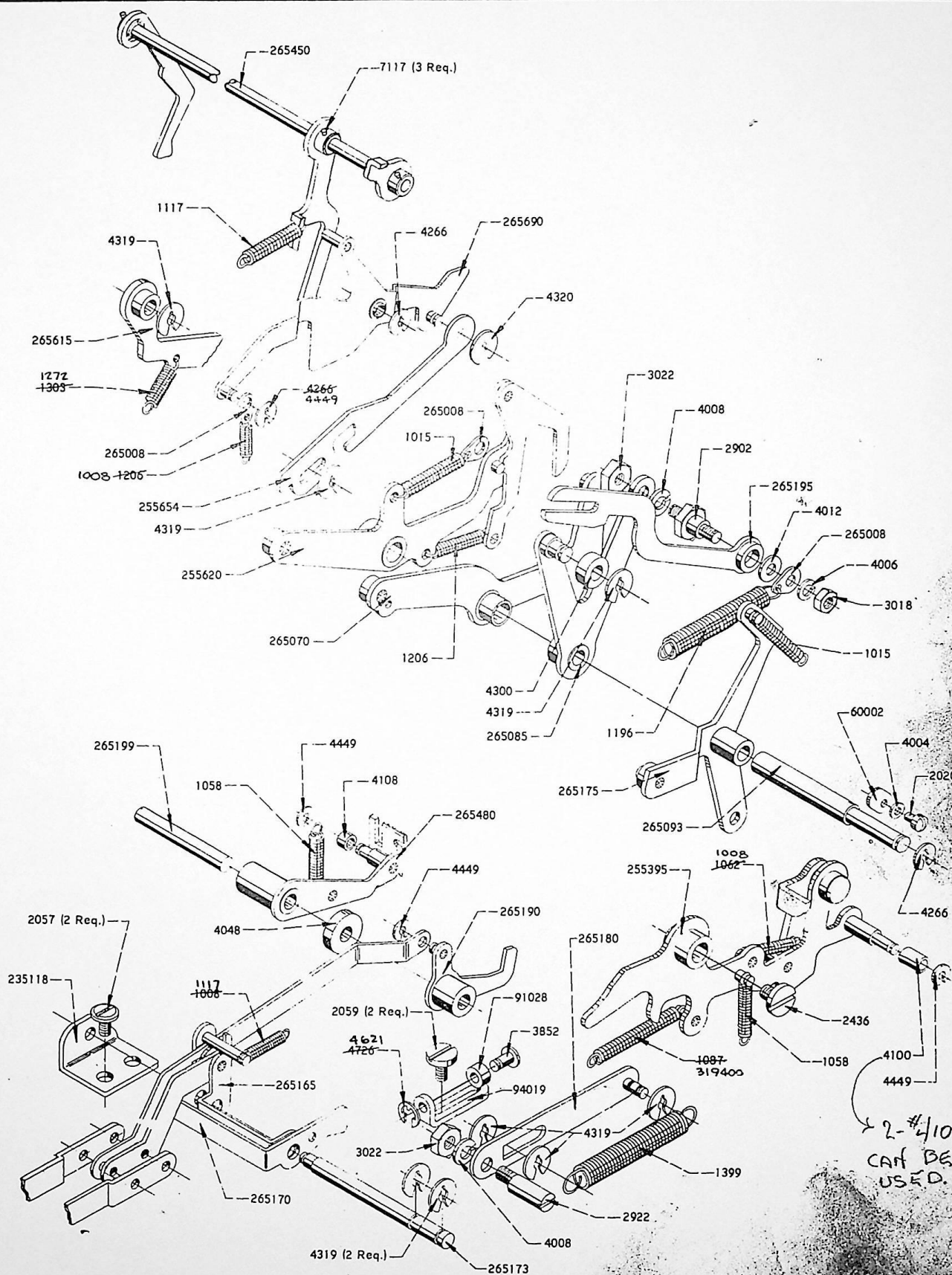
TPA-163SL





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MODEL 1217 PRINTING CALCULATOR PARTS

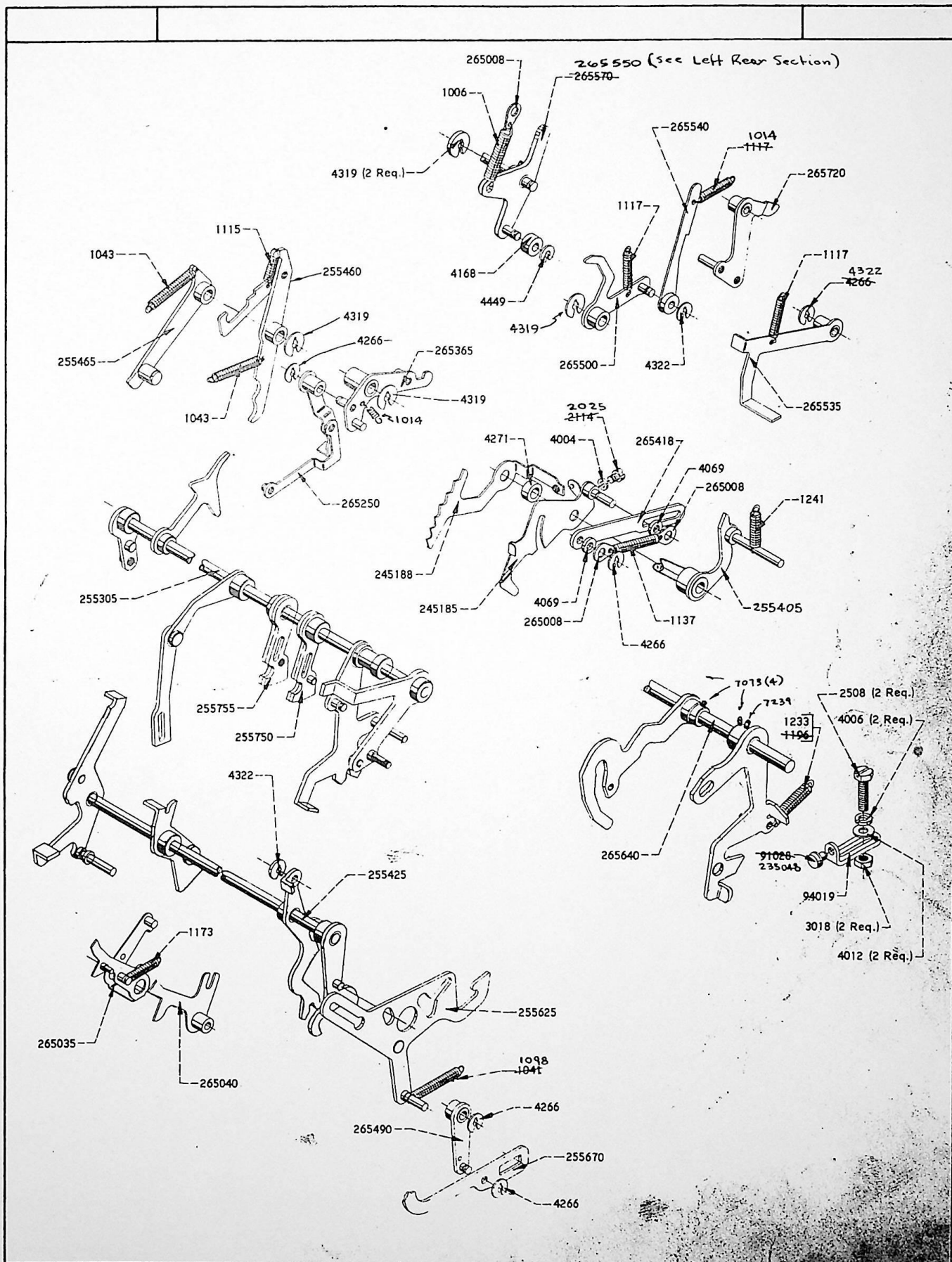
RIGHT REAR
SECTION 1
Page 6

12-31-69

MODEL 1217 PRINTING CALCULATOR PARTS

RIGHT REAR
SECTION (2)
Page 7

7

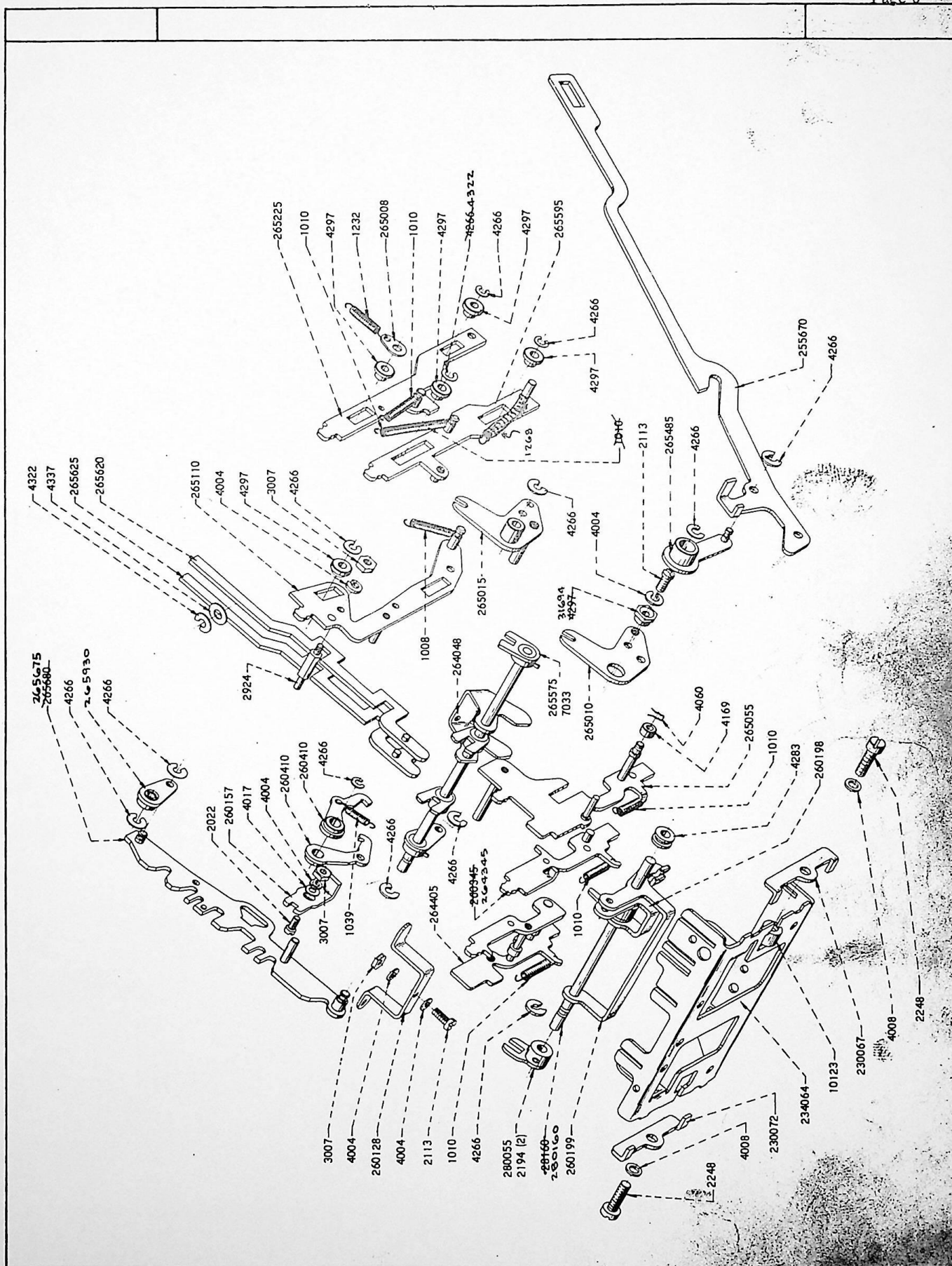


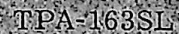
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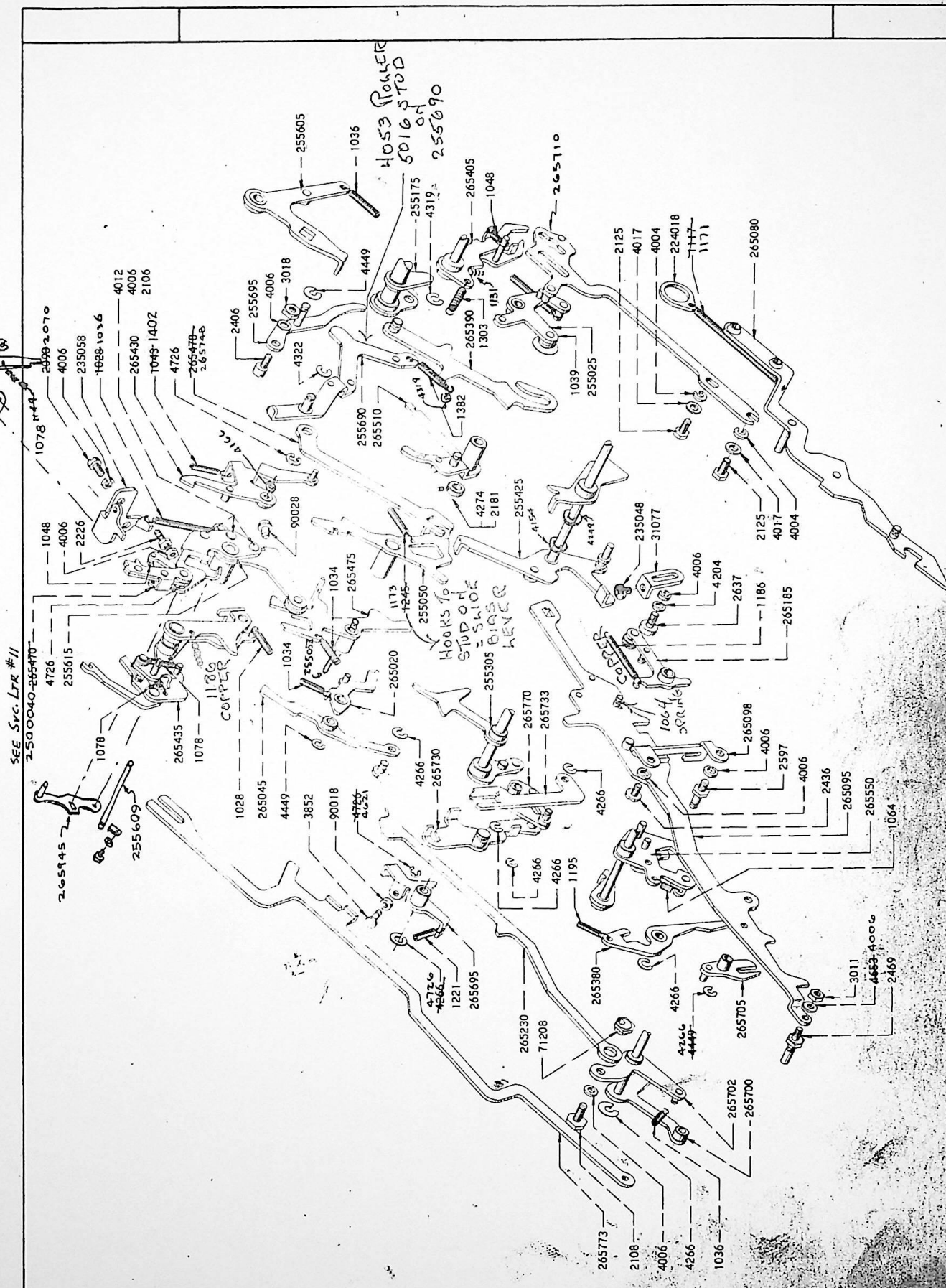
MODEL 1217 PRINTING CALCULATOR PARTS

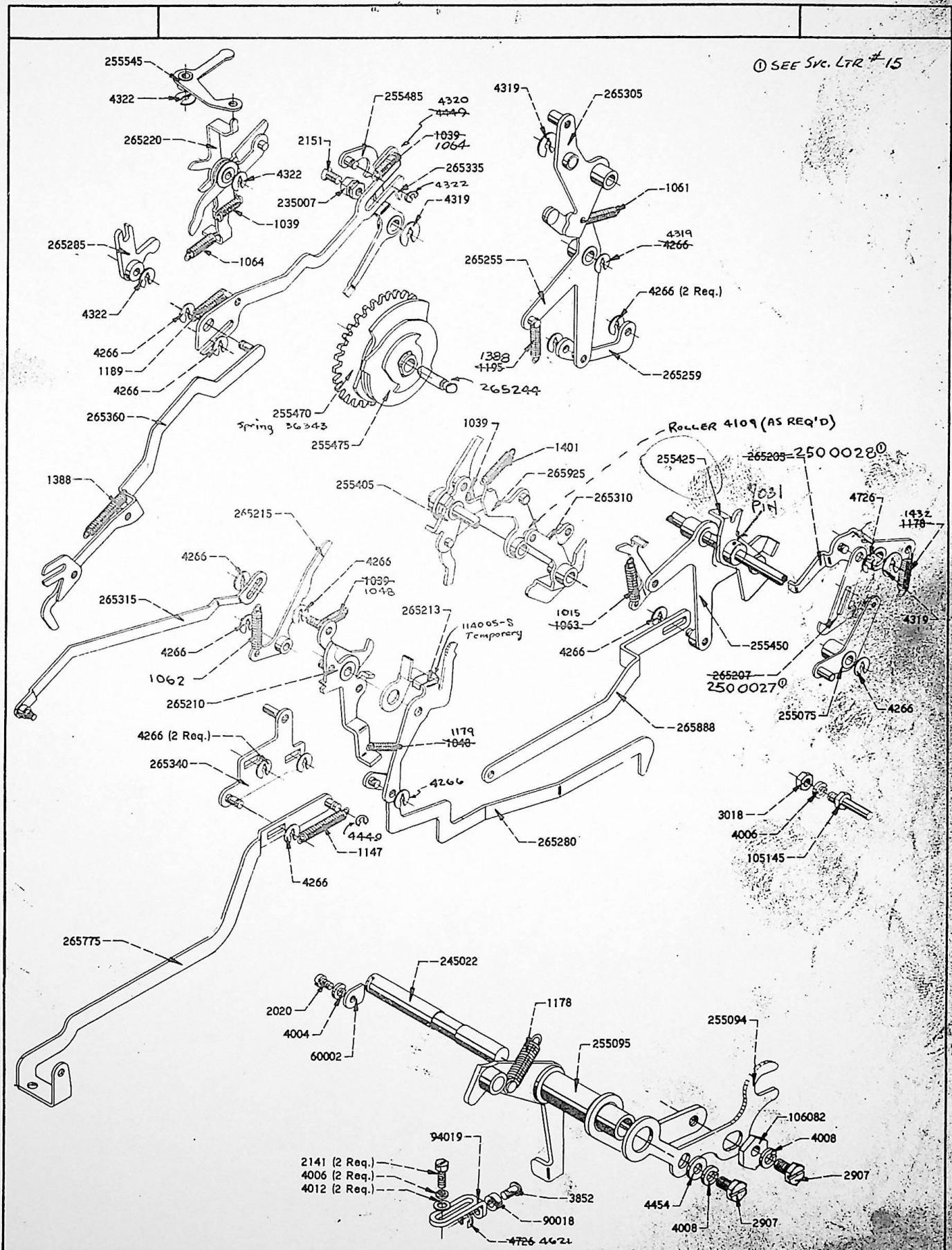
RIGHT FRONT
SECTION 1

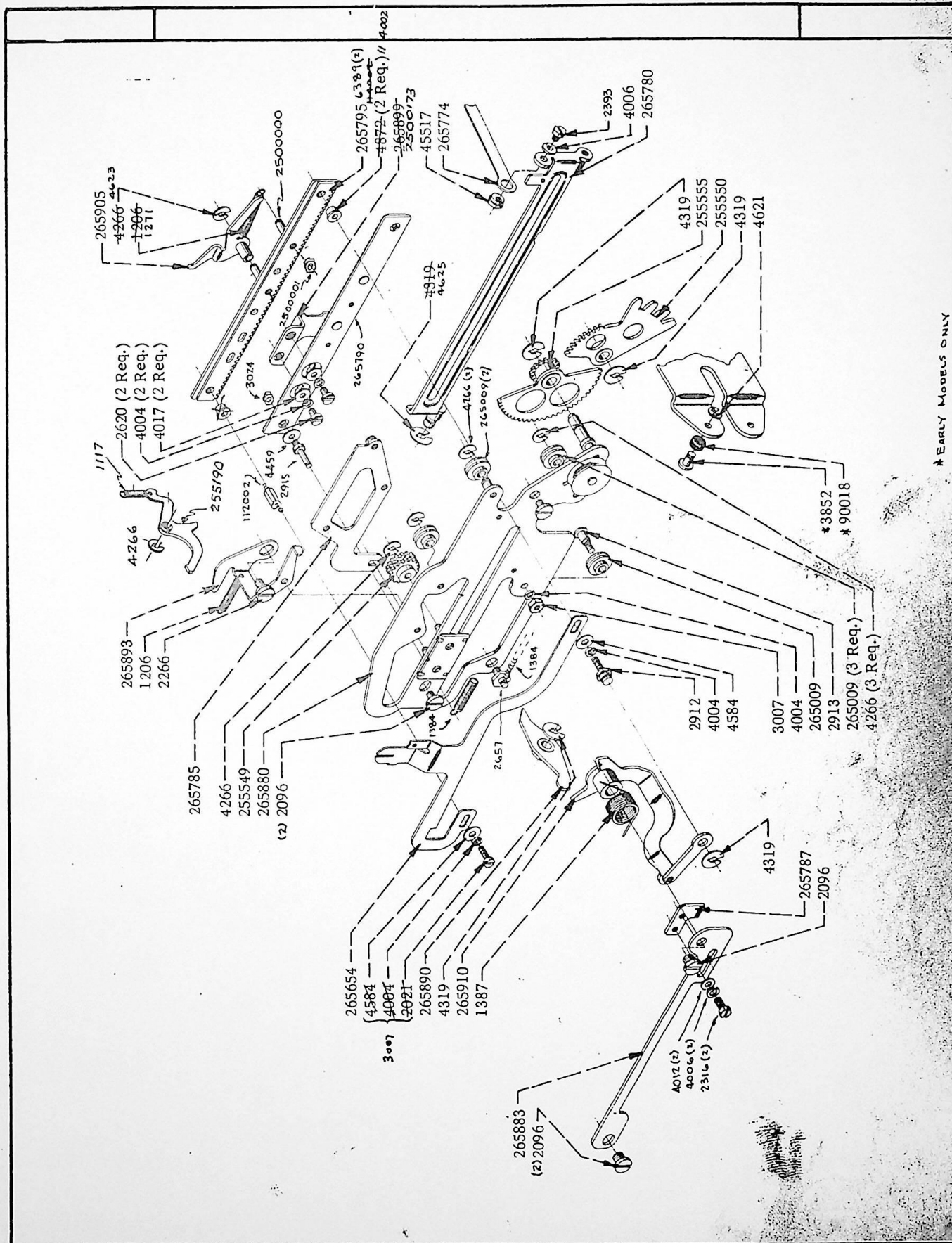
Page 8



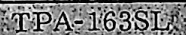


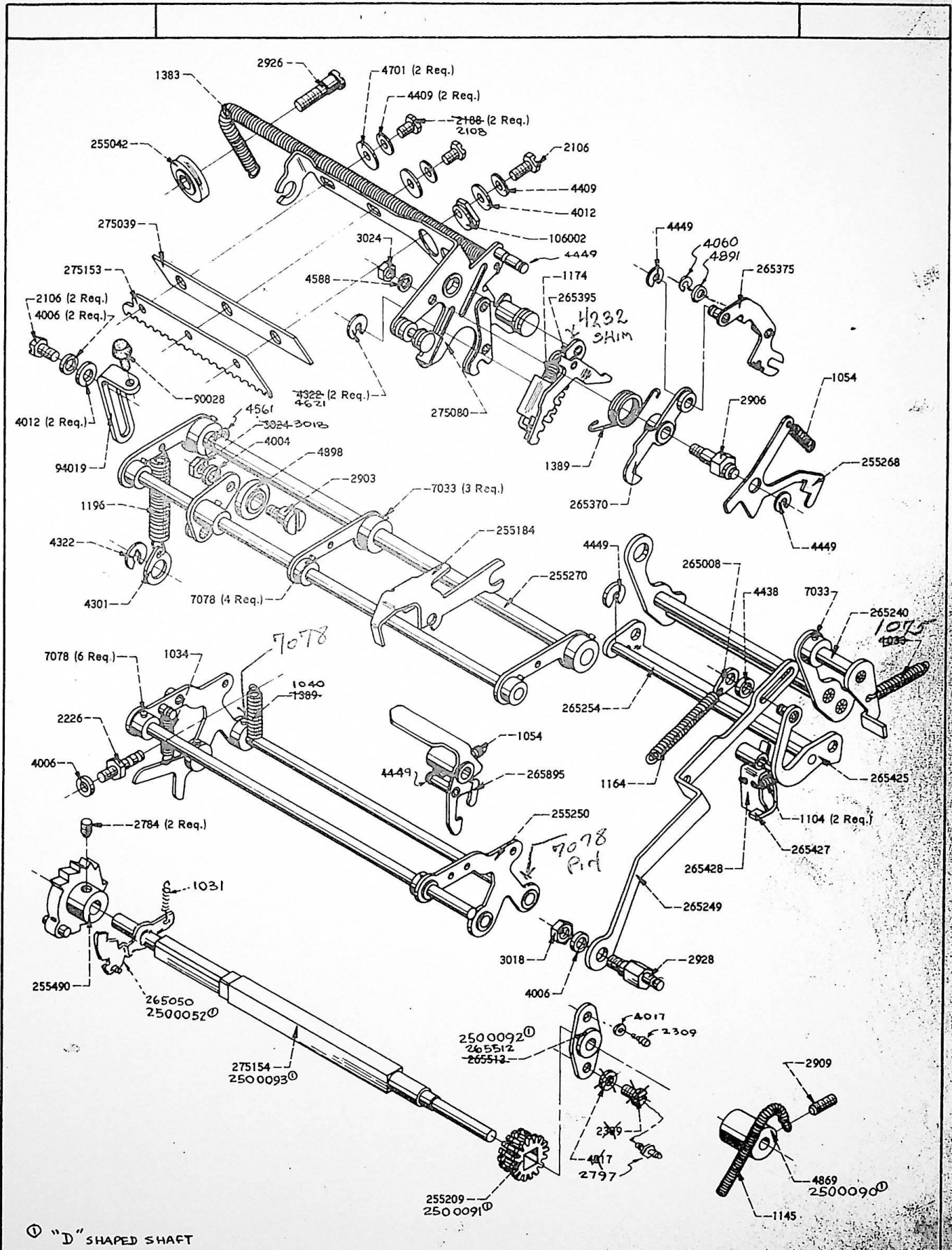


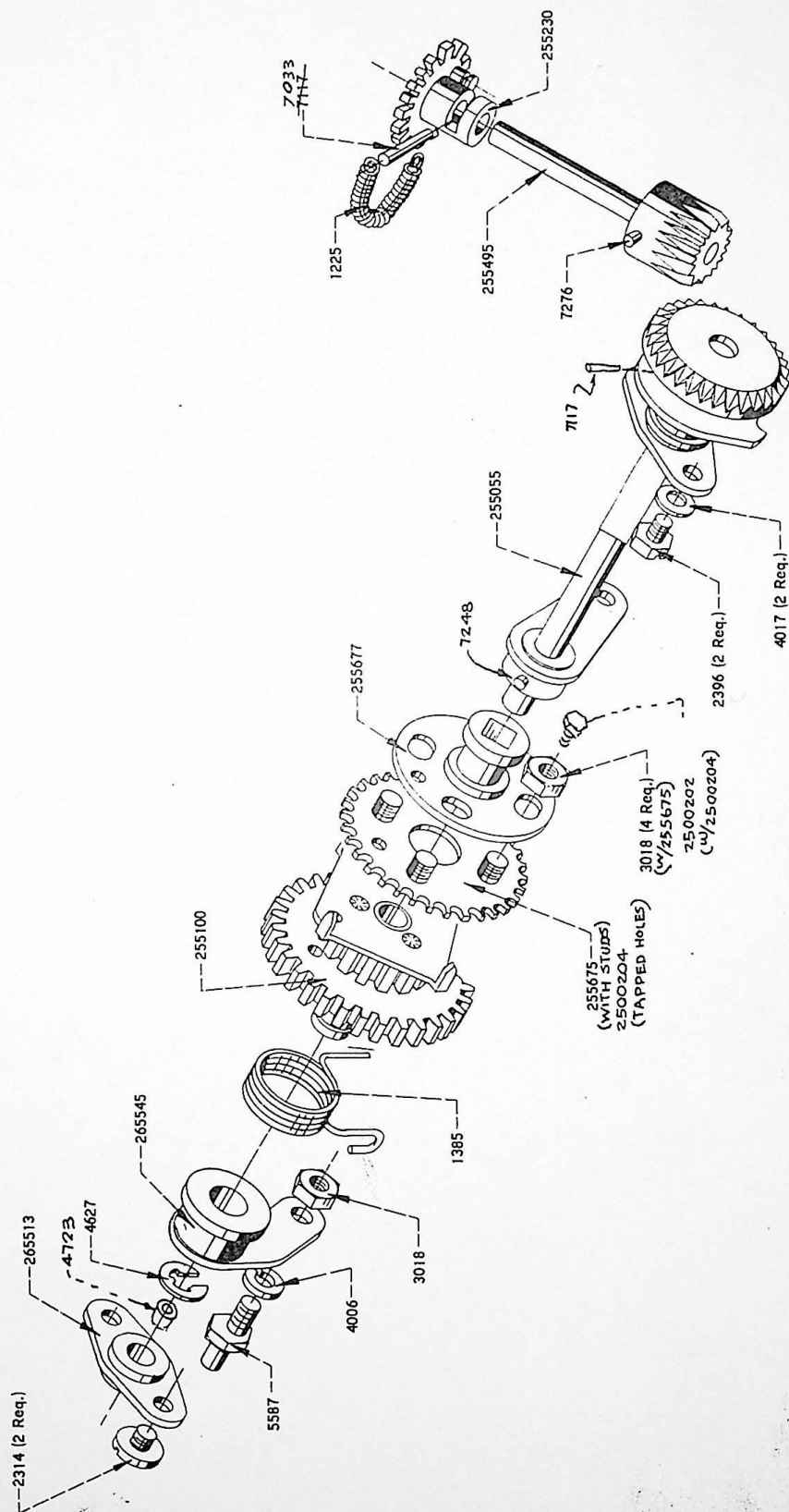




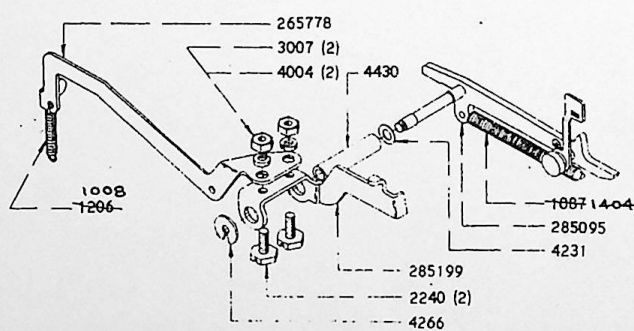
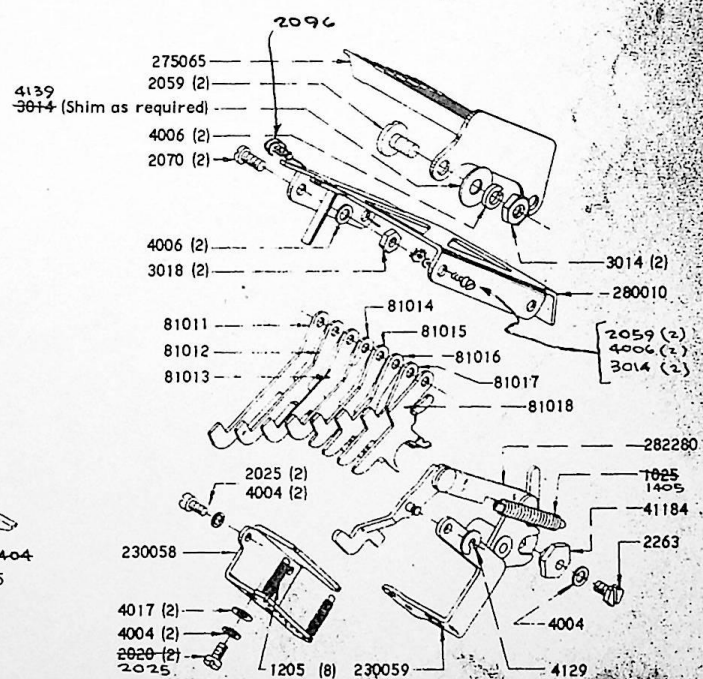
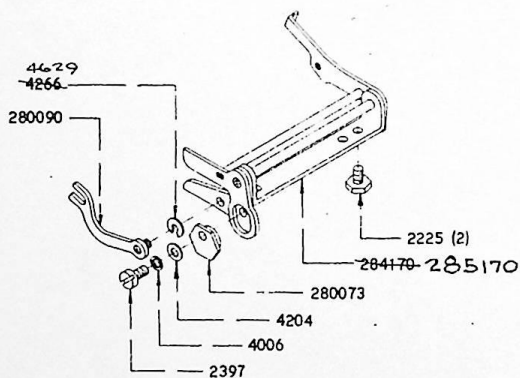
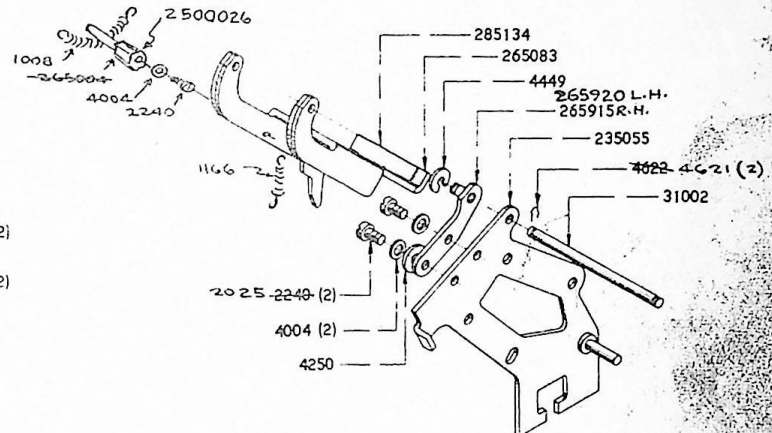
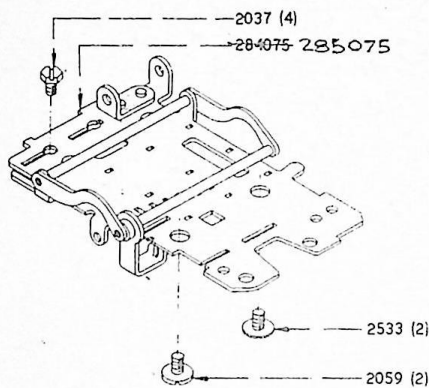
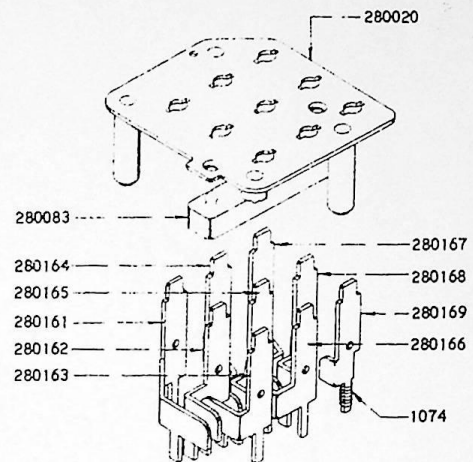
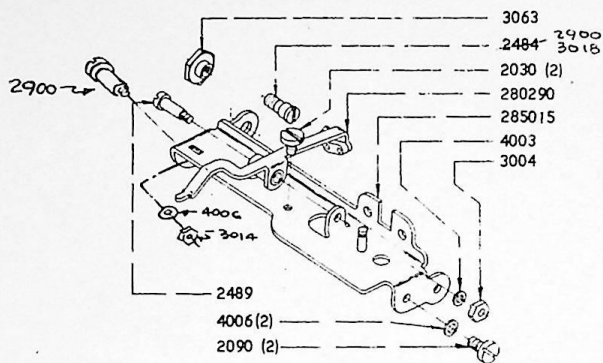
* EARLY MODELS ONLY

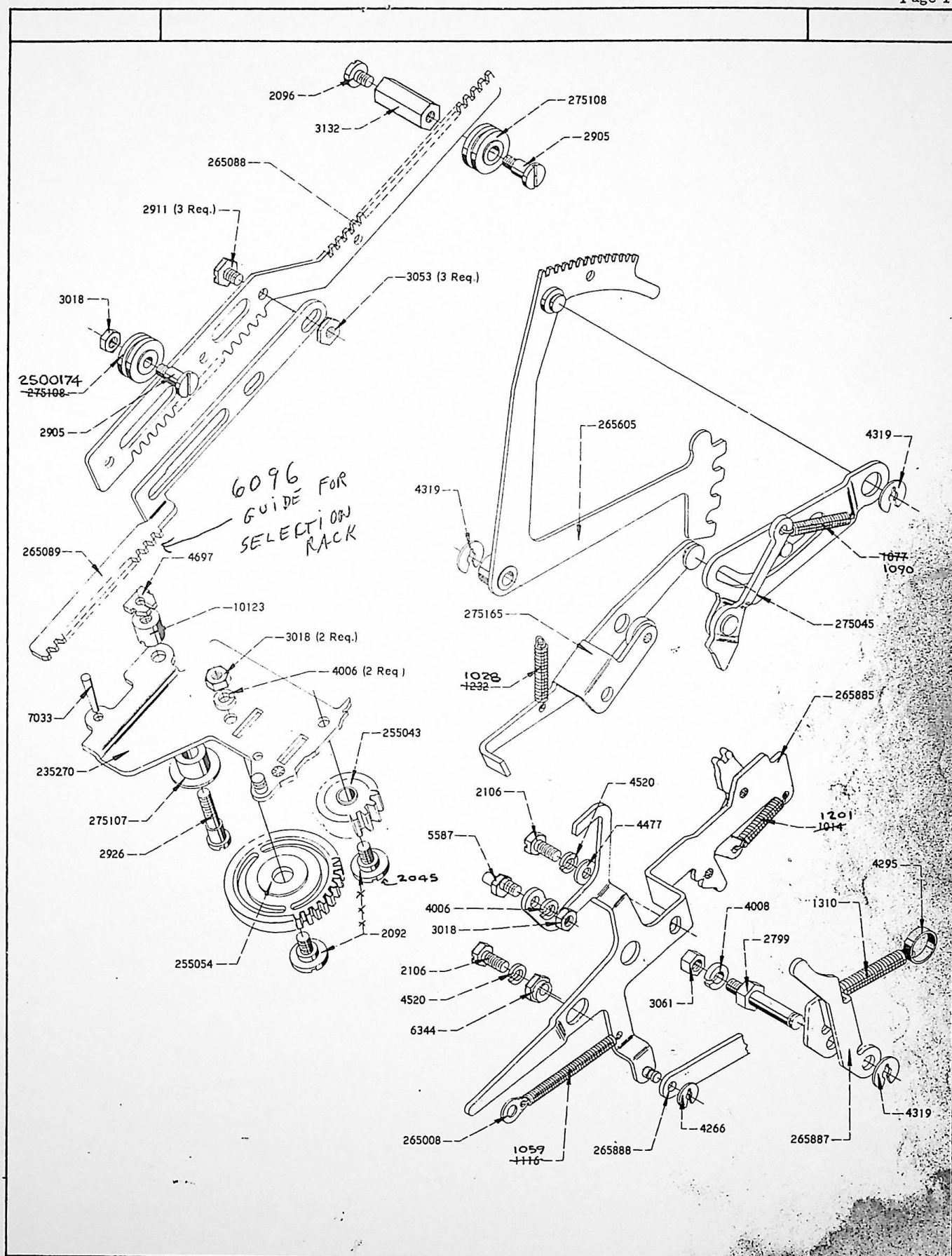


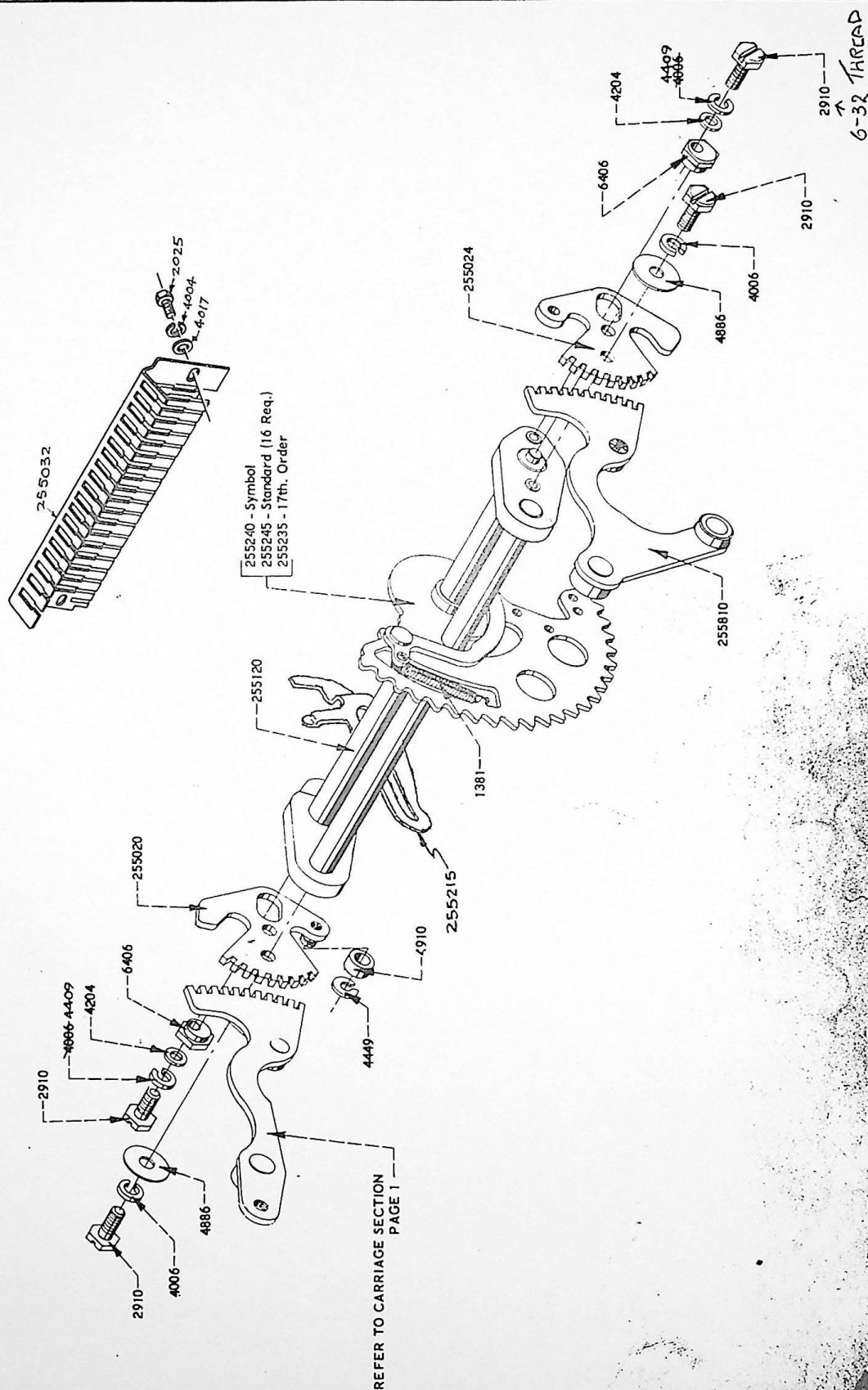




COMPLETE KEYBOARD ASM W/O KEYTOPS - 205650





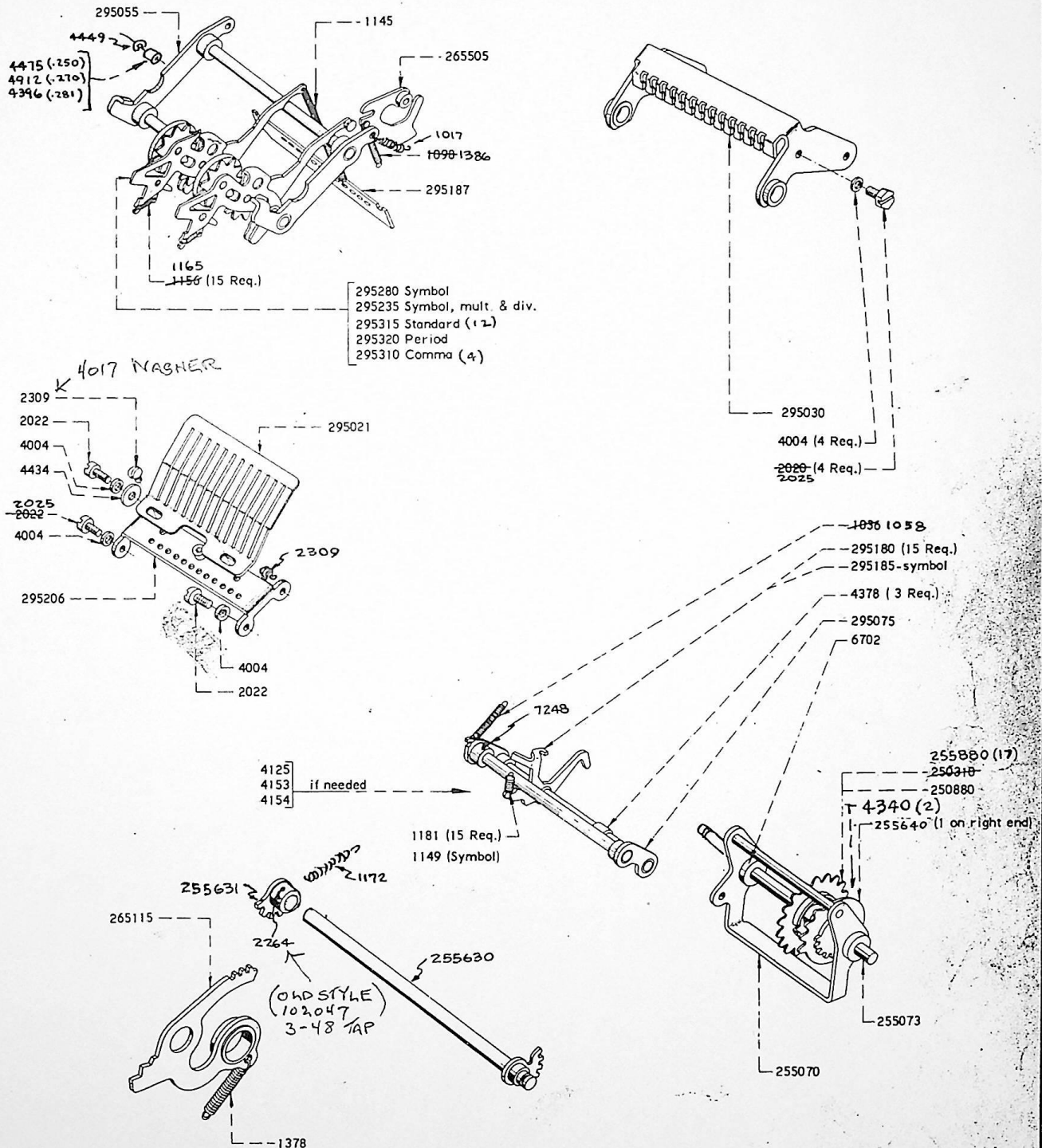


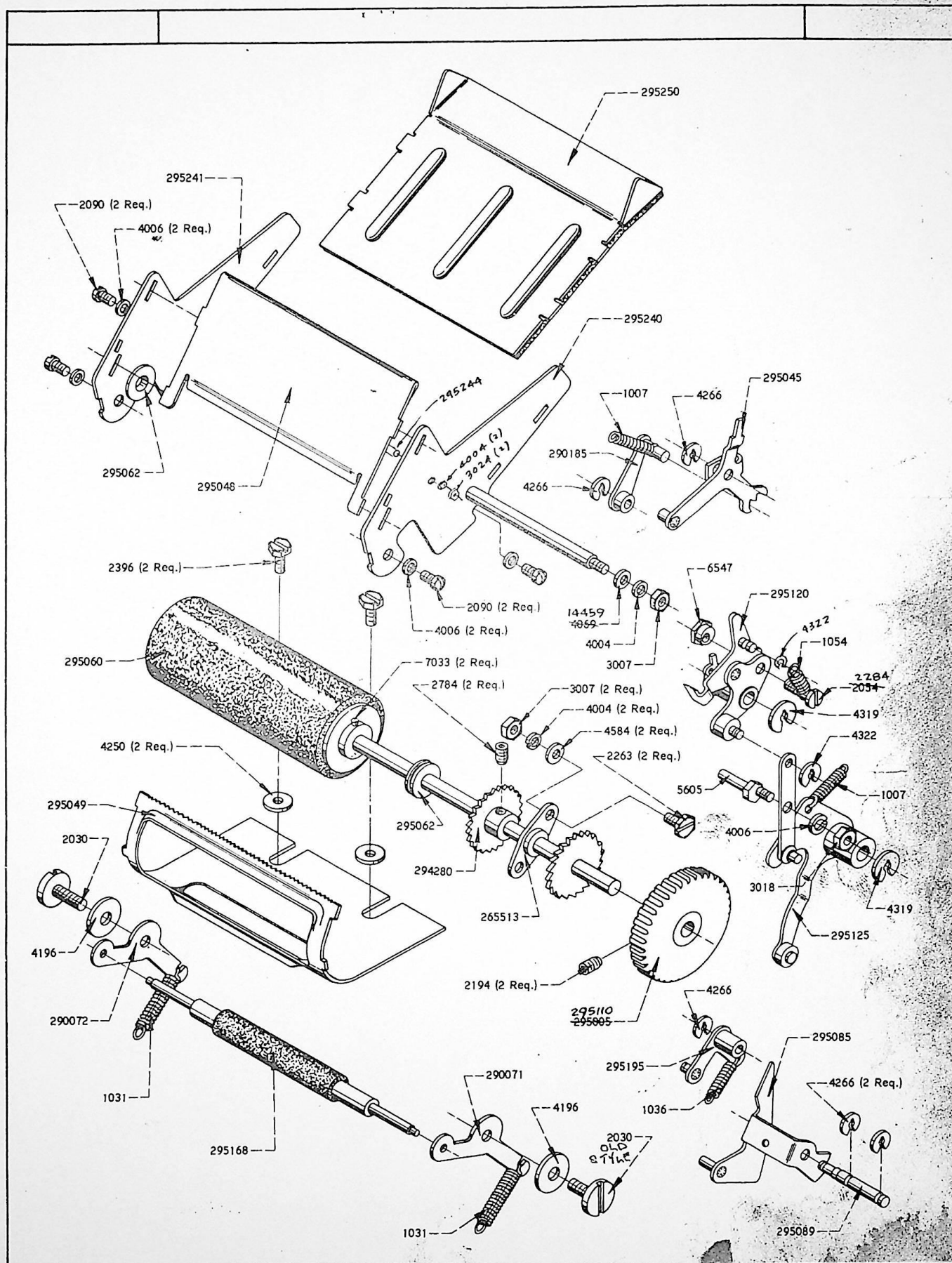
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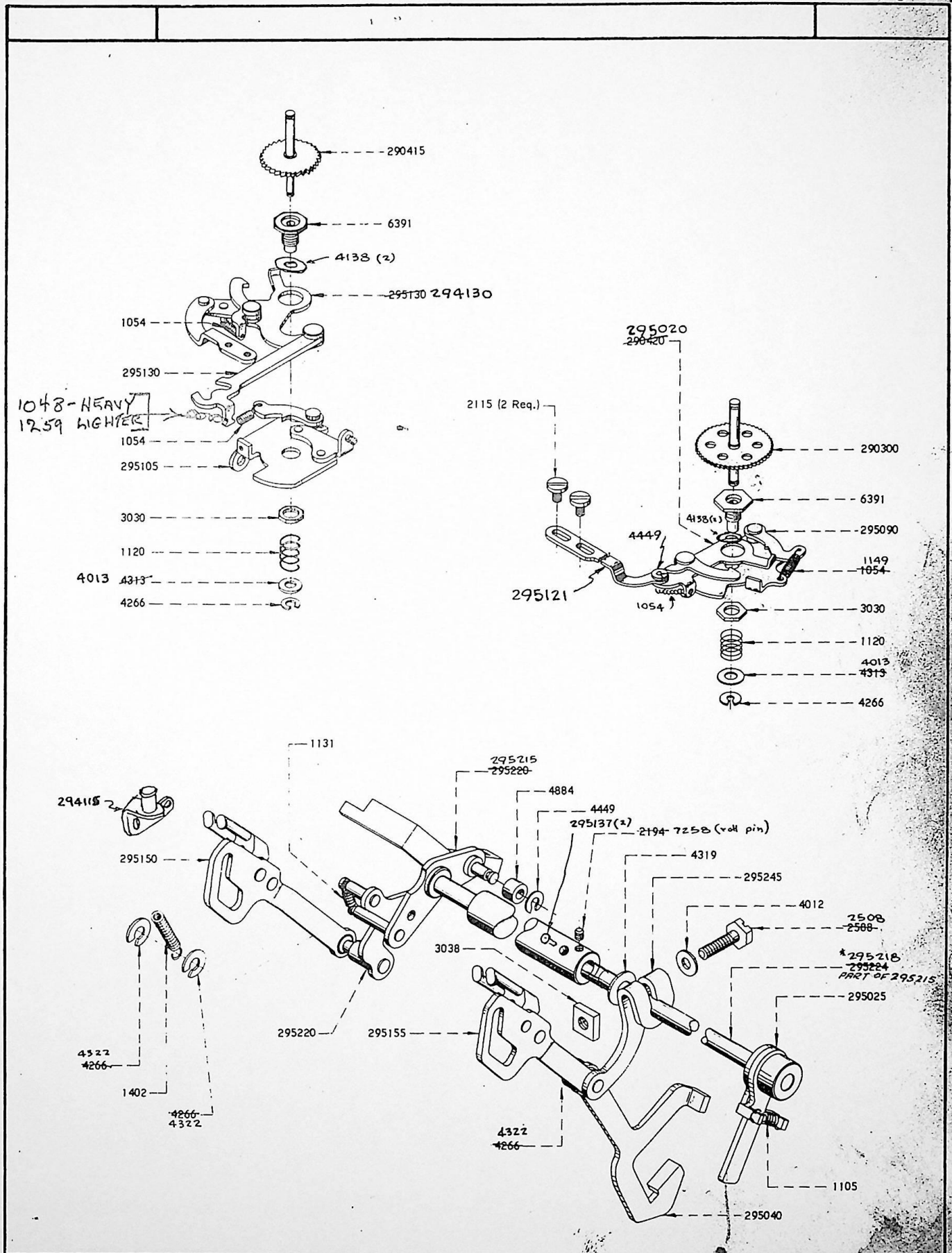
MODEL 1217 PRINTING CALCULATOR PARTS

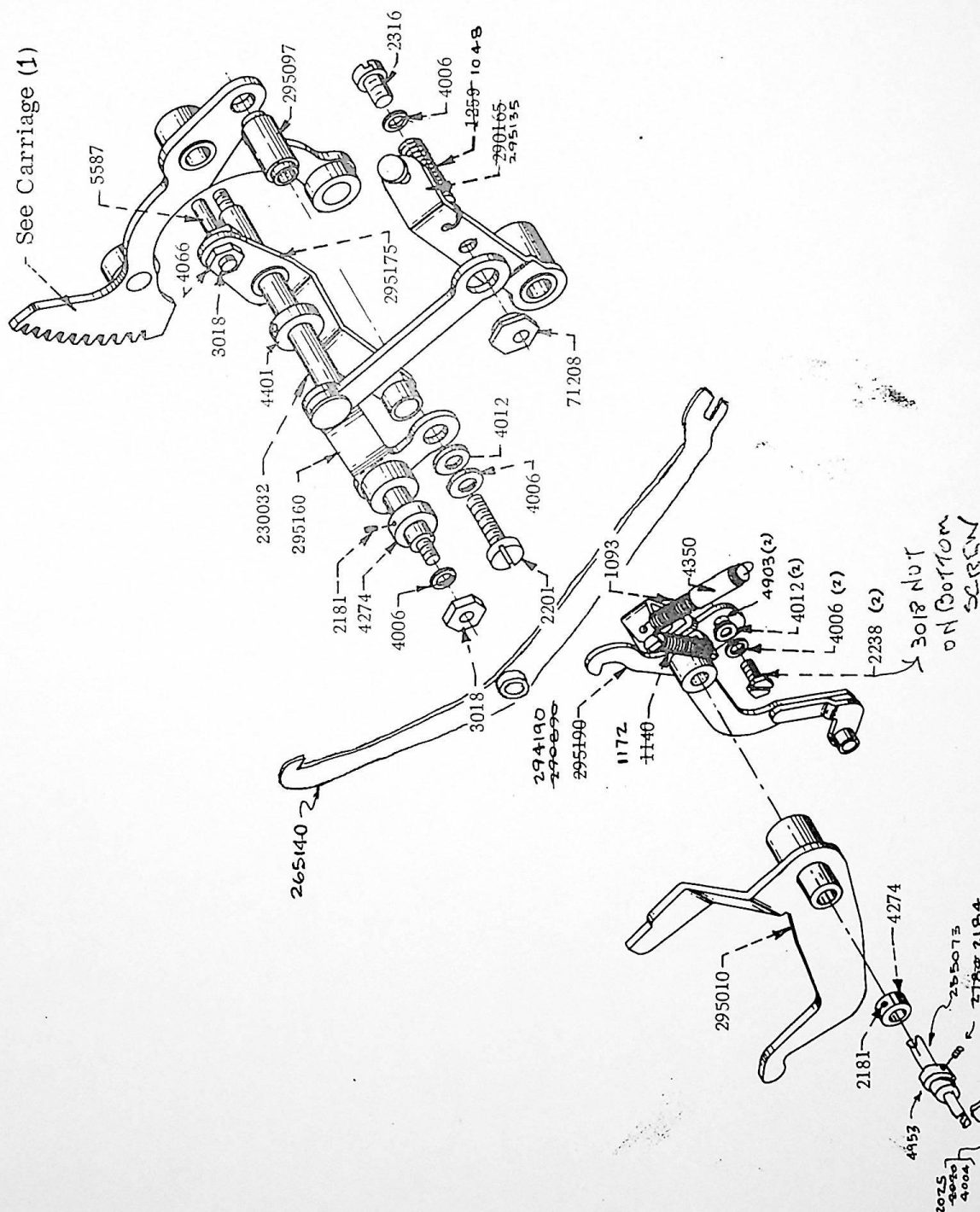
Printing paper feed (1)

Page 22









KEEP THIS FILED IN NUMERICAL ORDER

EFFICIENT SERVICE

Friden

A FRIDEN PRODUCT

PRINTING CALCULATOR
SERVICE LETTER

NO.

1

11-17-66

TO: ALL BRANCH SERVICE MANAGERS

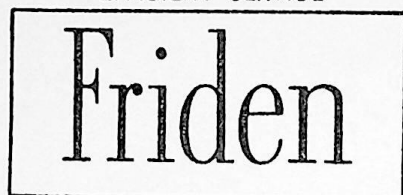
SUBJECT: 1217 Service Reports

EFFECTIVE: November 1, 1966

All 1217 Printing Calculator Service Reports must be filled out on Friden Service Record Form 721-197 (Rev. 2). General Instructions page i of the Service Record Code Chart must be complied with in order to relay the correct information to the Computer Program.

KEEP THIS FILED IN NUMERICAL ORDER

EFFICIENT SERVICE



A FRIDEN PRODUCT

PRINTING CALCULATOR
SERVICE LETTER

NO.
2

12-8-66

TO: ALL BRANCH AND AGENCY SERVICE MANAGERS

SUBJECT: Box Cam Pinning Assembly (265640)

EFFECTIVE: Starting Serial Number 3441

Design change to allow the box cam right side, and the rear pendant drive bellcrank to be attached to the shaft with two pins instead of one. This change is necessary due to heavy load on these parts.

All machines produced before Serial Number 3441 should be checked for tight fit of rear pendant drive bellcrank to the shaft each time machine is serviced. If necessary ream and repin, or replace pinning.

EFFICIENT SERVICE



A FRIDEN PRODUCT

PRINTING CALCULATOR
SERVICE LETTER

NO.
3

12-8-66

TO: ALL BRANCH AND AGENCY SERVICE MANAGERS

SUBJECT: Service Replacement of 1217 Name Plate (215381)

1. Remove dirt and old adhesive on ribbon mask.
2. Remove protective covering from new Name Plate.
3. Using felt applicator, small fine-haired brush, or spray can type non-flammable solvent such as Bar-Kem, apply only enough solvent to make adhesive tacky.
4. Affix Name Plate, using hand or roller pressure, make sure pressure is uniform over entire surface, especially the edges and corners.

Trichlorethylene, which will not burn or ignite, is recommended as a solvent. With proper precautions, such flammable materials as Methyl Ethyl Ketone, Tolvol, and lacquer thinner may be used.

EFFICIENT SERVICE

Friden

A FRIDEN PRODUCT

PRINTING CALCULATOR
SERVICE LETTER

NO.

4

1-11-67

TO: ALL BRANCH & AGENCY SERVICE MANAGERS

SUBJECT: Transfer Latch Pawl Stop Bail (245065)

EFFECTIVE: Starting Serial Number 3705

To eliminate possibility of Plus Transfer Pawl unlatching during positive total operation. Transfer Latch Pawl Stop Bail (245065) removed by factory starting serial number 2140 to be reinstalled starting serial number 3705.

EFFICIENT SERVICE



A FRIDEN PRODUCT

PRINTING CALCULATOR SERVICE LETTER

NO.

5 B

3-1-67

Rev.

6-21-67

Rev.

8-22-67

(This cancels Printing Calculator SL #5B.)

Recommended Spare Parts for 1217 Printing Calculator.

SPARE PARTS FOR 20-100 MACHINES

205649	Accumulator	1	
245015	Negative Transfer Pawl	6	
245020	Positive Transfer Pawl	6	
245025	Positive Transfer Lever	6	
245030	Negative Transfer Lever	6	
245038	Accumulator Sensor	6	
245042	17th Order Sensor	1	
245145	Accumulator Transfer Gears	6	
245105	Accumulator Detents	3	
265435	Counter Release Cam Follower	1	
265035	Total Symbol Block	1	
265735	Enter Dividend Key latch	1	
265905	Multiplier Sensor Yield	1	
265430	Counter Ratchet Detent	2	
36343	Division Program Cam Cluster Spring	2	
265787	Over Capacity Sensing Block	1	
265654	Termination Slide	1	
265785	Over Capacity Sensor Plate	1	
255220	Actuator Pawl	3	
265395	Mult Sensing Finger Assembly	2	
255184	Sign Sensor	2	
285059	Escapement Pawl	3	
285095	Multiplier Escapement Pawl	1	
275233	Escapement Comb	2	
275064	Pin Spring	4	
275020	Sectors	3	
275027	Zero Release Latch	3	
295280	Symbol Print Wheel	1	
295235	Symbol Print Wheel Mult & Div.	1	
295315	Standard Print Wheels	3	Same as AFY
295320	Print Wheel Period	1	Same as AFY
295310	Print Wheel Comma	2	Same as AFY
275065	Pin Restore Comb	2	
295055	Print Arm Bail	1	
295030	Print Arm Comb	2	
295180	Zero Foils	2	
295185	Symbol Zero Foil	1	
255880	Idler and Block Drum Gear	5	
250880	Idler Gear	3	
255640	Symbol Idler Sector Gear	3	
235058	Counter Feed Pawl Stop	2	

295048	Memo Writing Table	2	
295060	Platen	1	
295049	Paper Guide and Knife	1	
295110	Platen Knob	1	
295120	Platen Feed Pawl	1	
295195	Platen Detent	1	
215029	Check Dial Mask	2	
215028	Check Dial Window	2	
215005	Motor Assembly	1	
215250	Motor Governor	1	
250240	Main Drive Gear	5	Same as AFY
255279	Drive Gear	1	
255277	Drive Gear	1	
255658	Drive Gear	1	
2906	Stud Short Cut Latch	2	
215052	Rear Shock Mounts	4	
214056	Front Shock Mounts	10	Same as AFY
255530	Main Clutch Assembly-drilled and reamed	2	
294190	Aligner Cam Follower	2	Same as AFY
295168	Pressure Roller (Paper)	5	
245075	Transfer Restore Bail	1	
245090	Transfer Restore Bail	1	
4475	Adjusting Rollers Print Control Bellcrank	2	
4396	Adjusting Rollers Print Control Bellcrank	2	
4910	Adjusting Rollers Storage Unit Restore	2	
4911	Adjusting Rollers Storage Unit Restore	2	
4912	Adjusting Rollers Storage Unit Restore	2	
4913	Adjusting Rollers Storage Unit Restore	2	
4109	Roller Quotient Bellcrank	2	
1233	Spring Rear Pendant Drive Bellcrank	5	
1232	Spring Sector Restore Bail	5	
1259	Spring Ribbon Reverse	5	
1424	Torsion Spring Escapement Pawl	5	
1105	Spring Paper Feed Block	5	
1221	Spring Automatic Add-Subtract Interponent	5	
1382	Spring Add-Subtract Drive Cam Follower	5	
1388	Spring Division Slide	5	
319360	Spring Front Pendant Aligner	5	
1432	Spring Division Add-Subtract Cam Follower	5	
1401	Spring Mult Sector Restore Bail	5	
1383	Spring Mult Carriage	5	
1145	Spring Mult Counter Shaft	5	
1090	Spring Carriage Return Arm Yield	5	
1381	Spring Actuator Sickel	17	
1064	Spring Accumulator Detent	17	
1445	Spring Neg. Transfer Pawl	17	
1181	Spring Zero Foils	15	
1386	Spring Mult Div. Symbol Print Wheels	5	
1402	Spring Ribbon Guides	5	
1165	Spring Print Wheel Detent	20	
1131	Spring Print Block Yield	5	
1173	Spring Total Sub-Total Symbol Block	5	
1379	Spring Selection Carriage	5	
1384	Spring Carriage Sensor Rack	5	
1387	Spring Multiplier Sensor Restore Arm	5	
90028	Bumpers	10	
90018	Bumpers	20	
235048	Plastic Bumper	10	
295137	Bumpers Print Stop - Front Pendant	10	

EFFICIENT SERVICE

Friden

A FRIDEN PRODUCT

PRINTING CALCULATOR
SERVICE LETTER

NO.

6

6-5-67

TO: ALL BRANCH & AGENCY SERVICE MANAGERS

SUBJECT: Machine refuses to divide, caused by Front Pendant Control Hook missing Front Pendant.

EFFECTIVE: All 1217 Printing Calculators below serial no. 4575.

INSTRUCTIONS:

Whenever there are troubles with the engagement of the front pendant lip after the division memory clearing cycle, we advise you to exchange spring #1206 with spring #1008, which is a little stronger than the 1206.

PARTS REQUIRED:

1 Spring 1008

EFFICIENT SERVICE

Friden

A FRIDEN PRODUCT

PRINTING CALCULATOR SERVICE LETTER

NO.

7

6-5-67

TO: ALL BRANCH & AGENCY SERVICE MANAGERS

SUBJECT: The size of the stud on the Keyboard Mask is changed.

REASON: The stud is hitting the selection Keytop No. 2.

EFFECTIVE: All 1217 Printing Calculators up to serial no. 5200.

After this serial number the part is changed in the factory by either filing or decreasing the diameter.

INSTRUCTIONS:

Remove the Keyboard Mask and file .035" of this stud away (See Figure 1a).

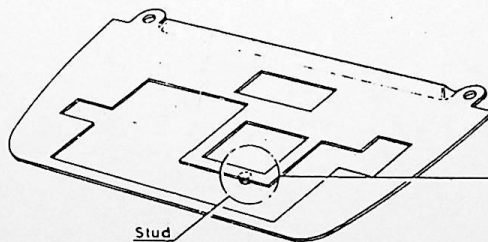


Fig. 1

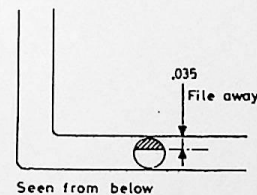


Fig. 1a

EFFICIENT SERVICE

Friden

A FRIDEN PRODUCT

PRINTING CALCULATOR
SERVICE LETTER

NO.

8

12-14-67

TO ALL BRANCH & AGENCY SERVICE MANAGERS

SUBJECT: 1217 Accumulators

EFFECTIVE: Immediately

All defective 1217 accumulators must be repaired at branch level. Accumulators returned to San Leandro for repair will not be accepted. Defective parts removed from accumulators of in-guarantee machines may be returned for credit.

Instructions for removal of transfer pawls and gears:

1. Remove negative zero-block; transfer gear detents; transfer pawl latch stop bails; feed gear carrier and credit balance extension.
2. Remove rear accumulator mounting frame and division sensor assembly.
3. Remove transfer restore bails.
4. Remove nut and washer from left end of upper support bar. Loosen screws from lower frame spacers enough to remove left outer frame. With the left outer frame removed, the bushings can be removed. Any defective transfer pawls or gears can now be removed. Those with excess side play may be shimmed as necessary.

2-16-68

TO: All Branch & Agency Service Managers

SUBJECT: Ribbon #290065

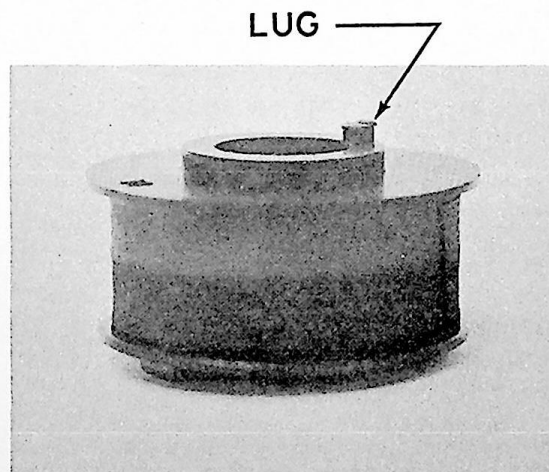
Several of the subject ribbons were shipped with excessive flashing on the driving lug of the spool.

The excess flashing does not allow the spool to seat properly on the ratchet wheel causing ribbon reversing problems. Also, this may cause a partial print in red by holding the ribbon up too high.

It is recommended that all branch offices check their present stock and the spools on machines when servicing. Trim off excess flashing with a file so the spool will seat correctly on the ratchet wheel. It may also be necessary to taper the lug slightly to allow it to seat properly.

The vendor has corrected this problem on later spools.

(This Service Letter also applies to Adding Machines since they use the same ribbon.)

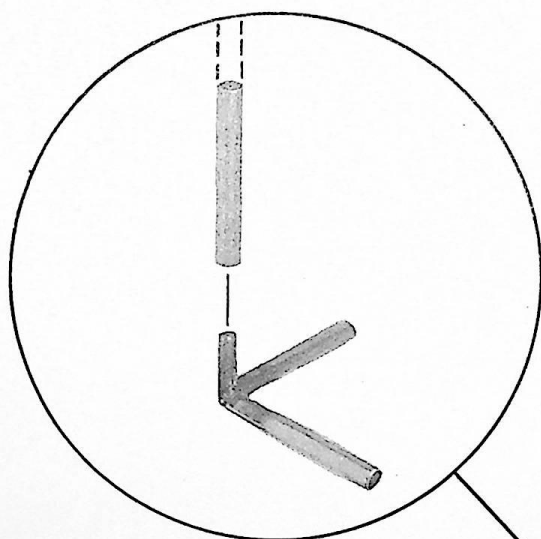


5-21-68

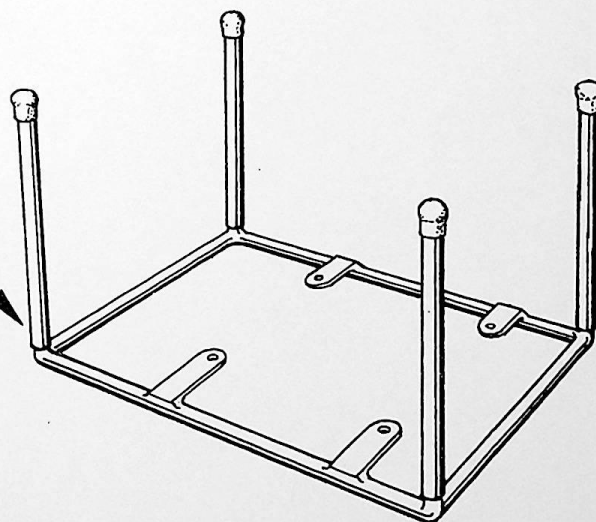
SUBJECT: 1217 Service Repair Stand

A 1217 Service Repair Stand (equipped with removable legs) is now available from San Leandro Service Materials Department at a branch cost of less than \$40.00.

Note: When placing an order, please specify part #T-18779.



CORNER DESIGN
REMOVABLE LEG



Friden

1217 PRINTING CALCULATOR SERVICE LETTER

No. 11

11-1-68

TO ALL FRIDEN OFFICES

SUBJECT: *MULT.* Counter Feed Pawl 265470.

EFFECTIVE: All machines under Serial #23200.

Counter feed pawl 265470 has been replaced by new part 2500040 on serial #23200 and later machines. Old part 265470 is obsolete and no longer available from Service Parts. When replacing the counter feed pawl 265470 on machines before serial #23200, it will be necessary to replace the counter feed cam follower #255615 with new part 255615-4.

REASON: Manufacturing improvement.

FIELD MOD: None.

Friden

1217 PRINTING CALCULATOR

SERVICE LETTER

No. 12

11-1-68

TO ALL FRIDEN OFFICES

SUBJECT: Part #264048 Total & Digital Interlock.

EFFECTIVE: All machines after serial #24500.

The total and digital interlock has been removed on all machines after serial #24500.

REASON: Unnecessary function on the 1217.

FIELD MOD: None.

Friden

1217 PRINTING CALCULATOR SERVICE LETTER

No. 13

11-1-68

TO ALL FRIDEN OFFICES

SUBJECT: Torque compensator cam and cam follower.

EFFECTIVE: All machines after serial #23000.

The torque compensator cam and cam follower has been deleted on all machines after serial #23000.

REASON: Unnecessary function on the 1217.

PARTS AFFECTED: Part Nos. 265630, 265631, and 1194 Spring.

FIELD MODIFICATION: Torque compensating cam follower 265630 and spring 1194 should be removed only when convenient on machines below serial #23000.

Friden

1217 PRINTING CALCULATOR

SERVICE LETTER

No. 14

11-1-68

TO ALL FRIDEN OFFICES

SUBJECT: Part #275020 - Carriage Check Dial Sectors.

EFFECTIVE: All machines after serial #20500.

The carriage sector counter balance damper has been deleted on all machines after serial #20500.

REASON: Mechelen Engineering reports the counter balance dampers do not perform a necessary function on the 1217 carriage.

FIELD MOD: None.

EFFICIENT SERVICE A FRIDEN PRODUCT

10-2-69

TO ALL FRIDEN OFFICES

SUBJECT: Division-add-subtract cam follower and interponent.

The stud on the division-add-subtract cam follower has been made longer to allow the add-subtract interponent to be made of .008" thicker stock.

EFFECTIVE: All late production machines.

REASON: To eliminate the possibility of the tip breaking off the add-subtract interponent during division operation.

PARTS: Old division-add-subtract cam follower (265205) is no longer available. Replace with new part number (2500028). When replacing old type division-add-subtract cam follower (265205); with new type (2500028), also order new add-subtract interponent (2500027).

When replacing old type add-subtract interponent (.041" thick) use number (265207). Part number (265207) is now made of thicker (.050") stock, but is relieved in the area of the connection hole to allow installation with the old type division-add-subtract cam follower. When replacing the new type add-subtract interponent (.050" thick) use new part number (2500027). Refer to page 11 in the 1217 Parts Manual.

FIELD MODIFICATION: None.

10-2-69

TO ALL FRIDEN OFFICES

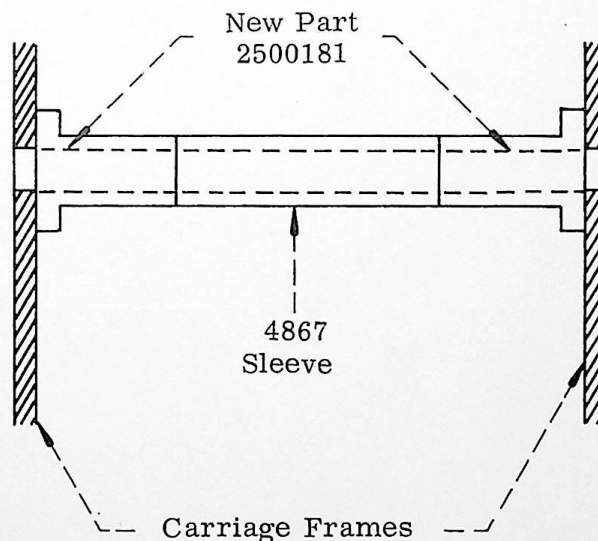
SUBJECT: Carriage Sector Restore Bail Sleeves.

EFFECTIVE: On all latest produced machines.

REASON: To prevent wear on carriage side frames (275240 and 275245).

PARTS: One of two sleeves (4867) has been removed and replaced with two (2500181) collars on each end of the remaining sleeve (4867). Refer to page 17 in the 1217 Parts Manual.

FIELD MODIFICATION: On machines where wear caused by sleeves (4867) is apparent.



10-2-69

TO ALL FRIDEN OFFICES

SUBJECT: New shock mounts.

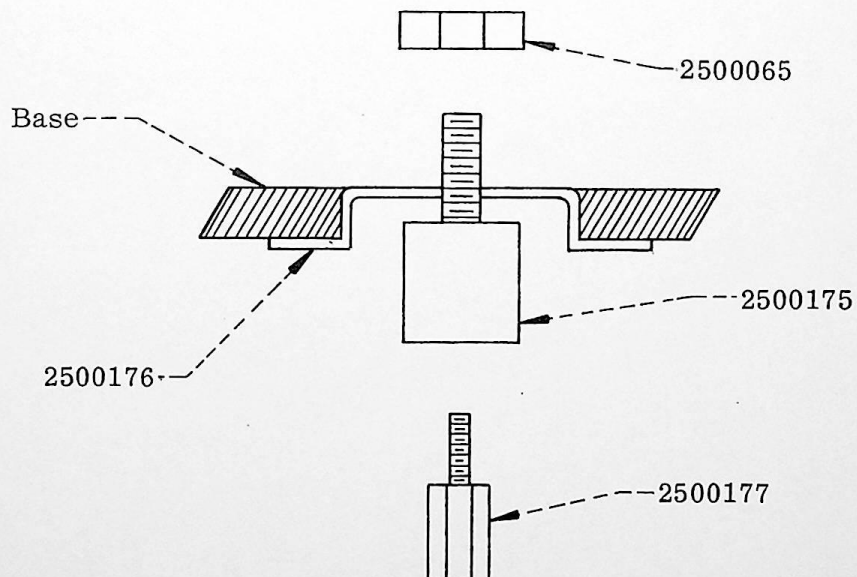
EFFECTIVE: All late production machines.

REASON: Improved shock mount.

PARTS: Base assembly with new shock mounts - 2500179
New shock mounts - 2500175
Adapter, shock mounts - 2500176
Screw stud - 2500177
Nut - 2500065

Order above part numbers for machines with new shock mounts. Part numbers for machines with old type shock mounts remain the same.

FIELD MODIFICATION: None. Parts are not interchangeable.



GRANET

SINGER
FRIDEN DIVISION

1217 Printing Calculator
Service Letter No. 18

10-2-69

TO ALL FRIDEN OFFICES

SUBJECT: New adjustment - mult sensor yield.

EFFECTIVE: All latest produced machines.

REASON: To eliminate the necessity of forming a hardened part.

PARTS: Replace riveted stud for mult sensor yield (265905) with eccentric stud (2500000) and nut (2500001) on mult sensor rack (265795). Part number 265795 (mult sensor rack) does not change. When ordering new part, also order eccentric stud (2500000) and nut (2500001). Refer to page 12 in the 1217 Parts Manual. - *ADN, #82*

ADJUSTMENT: See attachment. (Insert in your 1217 Adjustment Manual.)

10-9-69

TO ALL FRIDEN OFFICES

SUBJECT: New multiplier counter shaft.

The square multiplier counter shaft has been replaced with a "D" shaped shaft. Not interchangeable.

PARTS AFFECTED:

Multiplier Damper Sleeve	- 2500090
Multiplier Counter Gear	- 2500091
Counter Shaft Bearing	- 2500092
Multiplier Counter Shaft	- 2500093

Part numbers for old type multiplier counter shaft do not change, and will continue to be available for replacement.

